

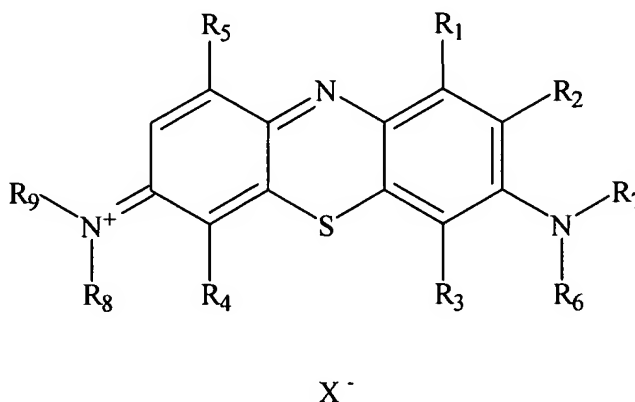
## II. AMENDMENTS TO THE SPECIFICATION

- THE SPECIFICATION OF THE PATENT IS HEREBY AMENDED AS SET FORTH BELOW:

--- The location of each paragraph to be deleted or replaced, and where the new paragraph or section is to be added, is set forth unambiguously below. A marked-up version of any replacement paragraph is provided. The text of new paragraphs or sections is not underlined. Any amendment (if any) to the abstract is treated as any other amendment to the specification.

- Please replace paragraph [00040] with the following amended paragraph:

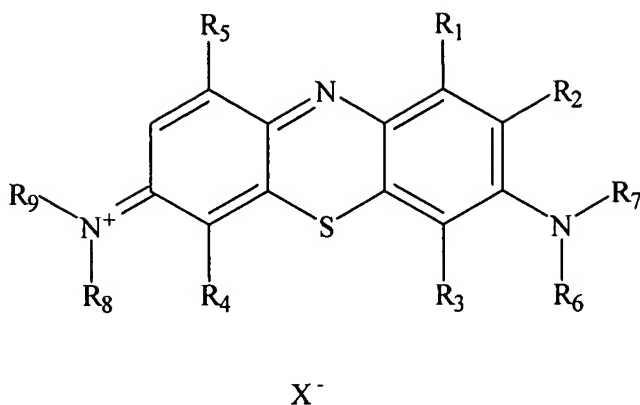
[00040] One particularly useful class of dyes capable of being activated by a wavelength of about 630 nm to about 660 nm that have been identified are:



where R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are ~~alkylamino~~ alkyl and R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> are selected from the group consisting of hydrogen, alkyl, aryl, alkoxy, thioalkoxy, alkylamino, nitro, amino and halogen. In one preferred embodiment R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are each, or independently, propyl or hexyl and R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> are hydrogen or alkyl. X can be Cl, Br, I, Chlorate, Mesylate, Tosylate, triflate, ethoxylate, methoxylate or any other anion.

- Please replace paragraph [00059] with the following amended paragraph:

[00059] One particularly useful class of dyes capable of being activated by a wavelength of about 630 nm to about 660 nm that have been identified are:

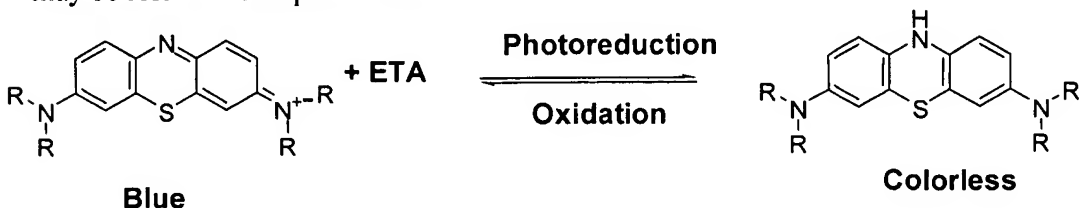


where  $R_6$ ,  $R_7$ ,  $R_8$ , and  $R_9$  are ~~alkylamino~~ alkyl and  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$  and  $R_5$  are selected from the group consisting of hydrogen, alkyl, aryl, alkoxy, thioalkoxy, alkylamino, nitro, amino and halogen. In one preferred embodiment  $R_6$ ,  $R_7$ ,  $R_8$ , and  $R_9$  are each, or independently, propyl or hexyl and  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$  and  $R_5$  are hydrogen or alkyl.  $X$  can be Cl, Br, I, Chlorate, Mesylate, Tosylate, triflate, ethoxylate, methoxylate or any other anion.

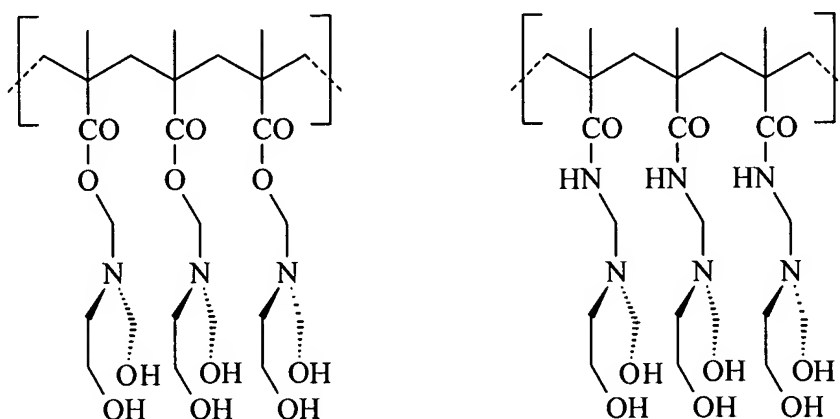
- **Remarks to changes to [00040] and [00059]:** As noted by the Examiner at paragraph 2 of his Office action, and given the discussion in each paragraph of propyl and hexyl being a preferred embodiment for  $R_6$ ,  $R_7$ ,  $R_8$ , and  $R_9$ , the above changes to the specification correct an obvious typographical error. It is asserted that no new matter has been added.

- Please replace paragraph [00041] with the following amended paragraph:

[00041] Such dye substances can be incorporated into a dye system which comprises an electron donor agent (ED)/electron transfer agent (ETA). Such compounds are electron rich and provide electrons to the dye molecule for example ~~[[once]]~~ when the dye molecule is reduced to the corresponding leuco form. In the presence of laser light, this phenomenon may be referred to as photoreduction.



Non-limiting examples of ETAs which may be incorporated into the dye system include triethanol amine, diethanol amine, TMG, DMEA, DEMA, TMED, EDTA, Bis-Tris, p-tolylimido diethanol, N-tert-butyl diethanol amine, 4-morpholine ethanol, 1,4-bis-2-hydroxyethyl piperazine, bicine, BES, 3-Pyrrolidino-1,2-propanediol, 1-Amino-3,3-diethoxypropane, (S)-3-tert-Butylamino-1,2-propanediol, DL-Isoproterenol sulfate dihydrate, N,N-Bis(2-hydroxyethyl)-3-methoxyaniline, 1,1'-[[3-(Dimethylamino)propyl] imino]bis-2-propanol, Triethanolamine Ethoxylate, 2,2'-(4-Methylphenylimino)diethanol, Triisopropanolamine, 2-[[2-[2-(dimethylamino)ethoxy]ethyl]methylamino] ethanol, Triethanolamine Hydrochloride, N-phenyldiethanolamine, 1-[N,N-Bis(2-hydroxyethyl) amino]-2-propanol, N-t-Butyldiethanolamine, N-Butyldiethanolamine, 3-Morpholino-1,2-propanediol, N,N-Bis(2-hydroxyethyl)ethylenediamine, 3-(Diethylamino)-1,2-propane -diol, 4-(3-hydroxypropyl)morpholine, N-Ethyldiethanolamine, 4-(2-Hydroxyethyl) -morpholine, N-Methyldiethanolamine, 3-morphonlino-1,2-propanediol, 3-diisopropyl -amino-1,2-propanediol, 3-(dimethylamino)-1,2-propanediol, 3-piperidino-1,2-propanediol, 3-(diethylamino)-1,2-propanediol, dropropizine. The ETA may be incorporated into the polymeric base of a dye system physically or chemically. For example, a useful ETA may be bound to the repeating polymeric unit. For example, a compound of the following structure has been found to be a useful ETA:



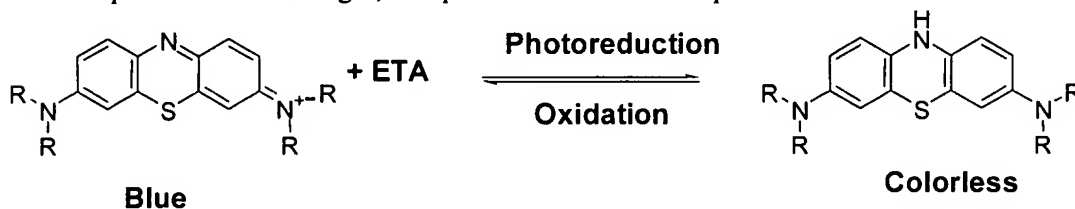
as well as other compounds comprising a polymer having a bis(2-hydroxy ethyl) amino functionality. A preferred polymer may be in the molecular weight range of 50 – 100k.

- Please replace paragraph [00057] with the following amended paragraph:

[00057] The present invention discloses transient optical state change security materials (both temporary optical state change materials, and permanent optical state change security materials) that change optical state upon exposure to a wavelength produced by DVD readers. The material, which may comprise a dye or dye stem, transiently changes the signal read by the pickup head by changing, for example the reflectivity of the laser beam when the material is in its activated state versus its unactivated state. Typically, when used for the production of copy protected optical discs, the dye acts to change a detectable parameter, e.g. reflectivity, at a few selected pit/land structures. A typical dye system comprises a dye which changes from a first unactivated optical state to a second activated optical state upon exposure to a wavelength produced by a DVD reader, e.g. from about 630 to about 660 nm, an electron donor agent or electron transfer agent which aids in the conversion to the activated second optical state ~~back to~~ from the unactivated first optical state, and a polymer. It has been found that the system composition affects the laser activation, the rate and intensity of optical state change in response to an activation wavelength, and the conformal application of the dye/electron donor to the disc.

- Please replace paragraph [00061] with the following amended paragraph:

[00061] An ETA or ED (electron donor agent) is a compound that is electron rich and provides electrons to the dye molecule that is being reduced to the corresponding leuco form. In the presence of laser light, this phenomenon is called photoreduction:



ETAs are particularly useful in a dye system of the present invention when photoreduction is a principle means of optical state change [back] to the ~~unactivated~~-activated state. ETA's that can be used in this system include, but not limited to, triethanol amine, diethanol amine, TMG, DMEA, DEMEA, TMED, EDTA, Bis-Tris, p-tolyimido diethanol, N-tert-butyl diethanol amine, 4-morpholine ethanol, 1,4-bis(2-hydroxyethyl) piperazine, bicine, BES, 3-Pyrrolidino-1,2-propanediol, 1-Amino-3,3-diethoxypropane, (S)-3-tert-Butylamino-1,2-

propanediol, DL-Isoproterenol sulfate dihydrate, N,N-Bis(2-hydroxyethyl)-3-methoxyaniline, 1,1'-[[3-(Dimethylamino)propyl]imino]bis-2-propanol, Triethanolamine Ethoxylate, 2,2'-(4-Methylphenylimino)diethanol, Triisopropanolamine, 2-[[2-(2-dimethylamino)ethoxy]ethyl]methylamino]ethanol, Triethanolamine Hydrochloride, N-phenyldiethanolamine, 1-[N,N-Bis(2-hydroxyethyl)amino]2-propanol, N-t-Butyldiethanolamine, N-Butyldiethanolamine, 3-Morpholino-1,2-propanediol, N,N-Bis(2-hydroxyethyl)ethylenediamine, 3-(Diethylamino)-1,2-propanediol, 4-(3-hydroxypropyl)morpholine, N-Ethyldiethanolamine, 4-(2-Hydroxyethyl)morpholine, N-methyldiethanolamine, 3-morpholino-1,2-propanediol, 3-diisopropylamino-1,2-propanediol, 3-(dimethylamino)-1,2-propanediol, 3-piperidino-1,2-propanediol and 3-(diethylamino)-1,2-propanediol, dropropizine. Such ETAs have been found to photobleach the system using a DVD laser on the pulsetec. In general percent photobleach observed was directly proportional to the amount of ETA added in the system, but it was found that there is a limit to the amount of ETA that can be tolerated in the system after which discs are not playable.

- **Remarks regarding changes to [00041], [00057], [00061]:** It is asserted that such changes to the specification do not add new matter, but rather correct obvious typographical and ministerial errors. Such changes are in conformity with the photoreduction/oxidation schematics set forth in the specification and with the overall specification.